

3-14-12

## COUNTING STRATEGY #4: FUNDAMENTAL COUNTING PRINCIPLE

\* \* Use this strategy when you only need the # of possible combos. (you do not need the detailed list)

STEPS:

① Draw & label the correct # of blank lines. Each line represents a category.

② Fill in each blank line w/ the # of items in that category

③ Multiply

Ex: How many possible meals at Olive Garden if you choose from 6 salads, 8 pastas, and 10 sauces?

$$\frac{6}{\text{Salads}} \times \frac{8}{\text{Pastas}} \times \frac{10}{\text{Sauces}} = 480$$

How many sandwiches are possible if you can choose from 3 breads, 2 meats, 3 cheeses, and 4 spreads?

$$\frac{3}{\text{Breads}} \times \frac{2}{\text{Meats}} \times \frac{3}{\text{Cheeses}} \times \frac{4}{\text{Spreads}} = 72$$

Ex: 5 swimmers are racing. In how many ways can they place 1st - 5th place?

$$\frac{5}{1^{\text{st}}} \times \frac{4}{2^{\text{nd}}} \times \frac{3}{3^{\text{rd}}} \times \frac{2}{4^{\text{th}}} \times \frac{1}{5^{\text{th}}} = 120$$

Ex: Mr. & Mrs. Smith want to name their baby girl. They have 6 1st names they like & 7 middle names. How many possible 1st/middle name combos are there?

$$\frac{6}{1^{\text{st}} \text{ name}} \times \frac{7}{\text{Middle name}} = 42$$